

**Remarks**

The Office Action mailed July 21, 2010, has been received and reviewed. Claims 19 and 21 having been amended, claims 1-18, 20, 22 and 23 having been canceled, without prejudice, the pending claims are claims 19, 21 and 24. Reconsideration and withdrawal of the rejections are respectfully requested.

**Objections to the Claims**

The Examiner objected to claims 19 and 21 as being dependent upon a rejected base claim, but will allow these claims if rewritten in independent form including all of the limitations of the base claim and any intervening claims. On the other hand, claim claims 19 and 21 were rejected under 35 U.S.C. 112, second paragraph, because of the indefiniteness identified in claims 3 and 20. Claims 19 and 21 have been rewritten in independent form to include all of the limitations of the base claim and any intervening claims. However, the limitations of claims 3 and 20 now included in claims 19 and 21 have been amended as described below.

It is respectfully submitted that claims 19 and 21 are in condition for allowance.

**The 35 U.S.C. §112, Second Paragraph, Rejection**

The Examiner rejected claims 3 and 19-22 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. The applicant respectfully disagrees, however, in the interests of furthering prosecution the issues raised by the Examiner at paragraph 25(d-f) have been addressed.

The language of claims 3 and 20 alleged by the Examiner to be indefinite was “each mutation prevents the expression of a functional NiFe hydrogenase protein” (claim 3) and “each mutation prevents the expression of a functional NiFe hydrogenase gene” (claim 20). This language has been amended as follows: “each mutation prevents the expression of the corresponding gene product.” Support for this amendment may be found in the specification at,

for instance, the paragraph spanning pages 7 and 8, in particular, the sentence spanning pages 7 and 8. This amended language has been added to claims 19 and 21.

Claim 19 has been amended to include the limitations of claims 1 and 3. Claim 21 has been amended to recite the limitations of claims 6 and 20.

It is respectfully submitted that claims 19 and 21 comply with the requirements of 35 U.S.C. 112, second paragraph.

**The 35 U.S.C. §102 Rejection**

The Examiner rejected claims 1 and 5-9 under 35 U.S.C. 102(b) as being anticipated by Kim et al. (Appl. Environ. Microbiol. 62:1759-1763, 1996) as evidenced by Schlecht et al. (Naturwissenschaften 80:9-17, 1993, abstract). The Examiner further rejected claims 1, 3, 5, 6, and 20 as being anticipated by Sawers et al. (J. Bacteriol. 168:398-404, 1986). This rejection is respectfully traversed. Claims 1, 3, 5, 6, and 20 have been canceled, or rewritten into claims 19 or 21. Withdrawal of the present rejection is respectfully requested.

**The 35 U.S.C. §103 Rejection**

The Examiner rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over Kim et al., as applied to claims 1 and 7, and further in view of Raettig Hansujurgen (U.S. Patent 3,651,214). This rejection is respectfully traversed. Claims 1, 7, and 10 have been canceled, or rewritten into claim 19. Withdrawal of the present rejection is respectfully requested.

**Summary**

It is respectfully submitted that the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives at the telephone number listed below if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted  
By  
Mueting, Raasch & Gebhardt, P.A.  
P.O. Box 581336  
Minneapolis, MN 55458-1336  
Phone: (612) 305-1220  
Facsimile: (612) 305-1228  
**Customer Number 26813**

December 20, 2010  
Date

By: David L. Provence  
David L. Provence  
Reg. No. 43,022  
Direct Dial (612) 305-1005

**CERTIFICATE UNDER 37 CFR §1.8:**

The undersigned hereby certifies that this paper is being transmitted via the U.S. Patent and Trademark Office electronic filing system in accordance with 37 CFR §1.6(a)(4) to the Patent and Trademark Office addressed to the Commissioner for Patents, Mail Stop RCE, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20 day of December, 2010.

By: Sandy Truehart  
Name: Sandy Truehart